Commitment to Internationalisation:
An Extension of the Internationalisation Process Model

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Abstract

Notwithstanding the interest over many years by scholars in modeling the internationalization of the firm, the initial transition for the firm from domestic to international operations remains under-researched. We identify the behavioral factors that are important at the pre-internationalization state and discuss how they may interrelate to influence a decision to commit to internationalization through export commencement. We study export commitment by proposing and constructing an index that incorporates the factors that influence a firm's propensity to commit to export activities. Utilizing the items from this index in a logistic regression analysis, we distinguish between the pre-internationalization characteristics of exporting and non-exporting firms to better understand the key influences in export commitment. Implications are discussed.

Key Words: internationalization, pre-internationalization, export commitment, lateral rigidity

INTRODUCTION

Firm internationalization was one of the key areas of interests among scholars early in the development of international business research (Liesch, Hakanson, McGaughey, Middleton, & Cretchley, 2011) and it remains a vibrant topic in the field with several issues as yet not fully addressed (Blomstermo & Sharma, 2003; Steen & Liesch, 2007; Petersen & Pedersen, 1997). One prominent advance in firm internationalization research that emerged during the 1970s highlighted the incremental nature of the internationalization process and the changes of state that firms pass through as they deepen their international involvement. This school was dominated by the so-called stages explanations (e.g., Johanson & Wiedersheim-Paul, 1975; Cavusgil, 1980, 1984) as well as the internationalization process model (Johanson & Vahlne, 1977). The latter explained the internationalization of firms to be a learning process and a risk management strategy of gradually increasing international commitment as the uncertainties of operating in foreign markets are reduced through foreign operations experience and knowledge development. In their 2009 updated version of their internationalization process model, which is now a business network internationalization model, Johanson and Vahlne (2009) consider market commitment as the original state variable now to be network position, and with this update, necessarily, the original commitment decisions change variable is now relationship commitment decisions. That is, with firms postulated to internationalize into and through networks, rather than markets, commitment now is to the network.

However, a well-recognized shortcoming of this work, in the early versions and the updated ones, is that it does not explicitly address how the process of internationalization begins (Luostarinen & Welch, 1990; Lamb & Liesch, 2002; Johanson & Vahlne, 2009). A very early attempt to address this gap was proposed by Wiedersheim-Paul, Welch and Olson (1975) and Wiedersheim-Paul, Olson and Welch (1978) through a pre-export conceptual model. Although this model was later adopted by Caughey and Chetty (1994) in case studies on New Zealand firms, there has been little empirical research to expand on this theme despite continuing discussion, updating and citation of the internationalization process (see for example, Johanson & Vahlne, 2006; 2009; Forsgren & Hagström, 2007; Tan, Brewer & Liesch, 2007). Indeed, a plea to continue developing and expanding our understanding of internationalization and how it begins has been made recently by Johanson and Vahlne (2009: 1416) who note that their models "… say nothing about the beginnings of internationalization".

While it is recognized that there are several paths to internationalization, and that these are likely to differ for firms of different histories, scales and scope, a focus on small and medium firms that follow a traditional path to internationalization through export will provide continuity to the evolving development of the internationalization process approach. These firms take their first step on the internationalization path through export rather than via the various other modes of entry, such as foreign direct investment, joint venturing or licensing. As such, our analysis is as much about export commitment as it is about internationalization. For clarity, we use the term export commitment, but we recognize that, for many firms, this is synonymous with internationalization commitment.

In addressing what are the 'beginnings of internationalization' we operationalize the antecedents of internationalization by adopting the pre-internationalization state as an extension of the internationalization process. We ask the research question, "What factors are important at the pre-internationalization state in shaping a decision to commit to internationalization and how do these factors interrelate?" We have two key objectives: first, to develop a measurement scale for export commitment behavior during a firm's pre-internationalization state, and second, to identify the factors that are important in shaping a firm's initial decision to commit to internationalization. By doing so, we offer contributions by extending the theoretical understanding of firm internationalization while highlighting important practical implications.

Welch (1977) long ago argued that there is a need to back-track on the process of international commitment to understand how an internationalization orientation originates within a firm. An early attempt at modeling pre-internationalization (pre-export) behavior introduced by Wiedersheim-Paul et al. (1975) and later refined in Wiedersheim-Paul et al. (1978) provided an exploratory and conceptual review but without empirical support (Thomas & Araujo, 1985). Recently Tan et al. (2007) proposed a pre-internationalization phase to provide a point of origin for firm internationalization. It describes a state that firms experience prior to their decision on initial foreign market commitment. According to Tan et al. (2007) when a firm initiates its first export decision, it exits the pre-internationalization state and begins an internationalization state. If it decides not to export, it remains within the pre-internationalization state where the learning process continues within current activities.

As noted, internationalization models do not explicitly describe the starting point of the internationalization process (Lamb & Liesch, 2002; Luostarinen & Welch, 1990; Johanson & Vahlne, 2009), but they do provide guidance as to what is likely to be important in influencing a firm's transition from a domestic to an internationalized firm. As a decision on commitment, either to a market or to a network, describes a change in the firm's position (when a foreign market entry decision is made on the basis of a decision-maker's perception of opportunities and problems), it is akin to a first export decision. This reflects a firm's commitment of resources to its foreign operations after an evaluation of possibilities based on existing experience.

A commitment decision, in this case, is moderated by the decision-maker's accumulated experiences and capabilities, and is deemed to be boundedly rational. Here, Johanson and Vahlne (1977) drew upon an uncertainty effect, retained in their 2009 model, noting an inability of decision-makers to always predict market conditions when making commitment decisions, which results in imperfect environmental matching. A decision to commit further is made only after a favorable evaluation of uncertainty against a firm's level of "tolerable risk" (Johanson & Vahlne, 1977: 34). The concept of bounded rationality is characterized as satisficing rather than optimizing decision-making (Simon 1947, 1952). As such, commitment decisions are made by decision-makers relying on their acquired knowledge and working judgment rather than through an economics-based rational calculation - they seek a good but not necessarily optimal result.

The pre-internationalization state highlighted in our study is similarly a learning phase that is moderated by the decision-maker's bounded rationality. The key question here is: what are the important factors that will drive a firm to commit to internationalization through export? We propose that this export commitment concept can be developed to better understand under what conditions the transition from a state of pre-internationalization to a state of internationalization (through an initial export commencement decision). In the following sections, we study export commitment by proposing and constructing an index that incorporates the factors that influence a firm's propensity to commit to export activities.

The paper begins with a discussion of export commitment through a review of the relevant issues identified in the literature covering this phenomenon. The export commitment concept is proposed as the analytical focal point of pre-internationalization and its proposed components are introduced. We then describe a survey undertaken with Australian firms, eliciting data on export commitment. We distil the significant items hypothesized as important to export commitment in this sample, and an appropriate measure, the export commitment index (ECI), is developed. We also, through logistic regression analysis, identify the commitment factors that are most important to those sample firms that have internationalized. Theoretical and practical implications of the study are highlighted.

THE COMMITMENT CONSTRUCTS

The constructs proposed as core to the pre-internationalization state are now introduced.

Exposure to Stimuli

Wiedersheim-Paul et al.'s (1975; 1978) pre-export model identifies the importance of a decision-maker's exposure to and recognition of relevant information through stimuli which act as "motives, incentives, triggering cues or attention evokers" (Leonidou, 1998: 43). Export stimuli have been extensively discussed in the literature (Aaby & Slater, 1989; Bilkey, 1978; Caughey & Chetty, 1994) and these stimuli, both internal and external, influence a firm's initial international involvement as well as its subsequent development (Bilkey, 1978; Leonidou, 1995). Internal stimuli are the driving forces that originate from a firm's history, its products, or its management characteristics (Bilkey & Tesar, 1977; Knight & Cavusgil, 1996). These include factors such as organizational and managerial aspirations toward internationalization, the potential for international success due to awareness of unique advantages, and excess capacity available for international expansion. Firms are also exposed to external stimuli through their daily operations which can arise from both the domestic or international environments. A firm could be stimulated to commence exporting by unsolicited orders or enquiries from new foreign customers, through encouragement from its domestic or foreign business partners, or simply due to heightened domestic competition that calls for internationalization (Dunning, 1993; Johanson & Mattsson, 1988).

Attitudinal/Psychological Engagement

How information channeled through stimuli exposure is acted on by a firm depends on the attention and interest it generates with the decision-maker. Miesenbock (1988) notes that stimuli factors may not be effectively taken up by a firm unless the decision-makers within the firm have the ability to perceive and act on them. Being exposed to a stimulus, an impulse may be triggered on the part of the decision-maker. This impulse may or may not lead to further involvement but it may instill in the decision-maker some form of psychological and attitudinal stake that could compel greater attention and motivation towards foreign opportunities (Lamb & Liesch, 2002). This may trigger further information search or evaluation of alternatives regarding future firm strategies (Aharoni, 1966). This aspect of commitment is a form of engagement that focuses on the orientation and intention of individual decision-makers (Luostarinen, 1979; Gundlach, Achrol & Mentzer, 1995) which is distinguished from the more common interpretation of commitment in the form of resources that occurs during a firm's international market entry (as seen in Johanson & Vahlne, 1977; 2009). Nieminen and Törnroos (1997), for example, highlight the distinctive difference between commitment on an ‘individual’ level that relates to a decision-maker’s dedication to accept change and new methods, and commitment on an ‘organizational’ level that relates to a firm’s investment of resources. We emphasize here that attitudinal/psychological engagement is an individual phenomenon which will ultimately help decide the commitment of resources through the firm during its commencement of internationalization.

The concept of attitudinal engagement is used in the management literature to reflect an individual's dedication, vigour and absorption (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002) and it characterizes a "persistent, positive, affective-motivational state of fulfillment" (Schaufeli & Bakker, 2004: 294). Relating to the pre-internationalization state, the typical psychological/attitudinal engagement behaviors exhibited by decision-makers as a response to stimuli include information search on potential international markets, holding staff meetings for discussion and planning regarding the possibility of internationalization, and engaging in formal market research programs to evaluate the alternatives regarding a firm’s future strategies. Resource commitment occurs only after a decision-maker decides to take an additional step towards the internationalization process. This, highlighted as a ‘state of pre-internationalization’ to ‘state of internationalization' transition denotes a firm’s commencement of international operations after its decision-maker’s evaluation of problems and opportunities in a foreign market (Blomstermo & Sharma, 2003).

Lateral Rigidity

The above discussion on attitudinal/psychological engagement suggests that the decision-maker may respond favorably to stimuli by taking a positive step through greater involvement in export preparation activities. However, studies have shown exposure to stimuli factors alone to be insufficient as a cause of a firm’s future foreign market commitment or an export commencement decision (Dichtl, Leibold, Koglmayr & Muller, 1984; Olson & Wiedersheim-Paul, 1978). It is possible that a decision-maker could either choose to ignore or to offer only a passive response to stimuli due to the perception, or actual presence of, internationalization barriers. This inhibiting effect in the experiential learning process has been described in Luostarinen (1979) as lateral rigidity, a behavioral characteristic that can cause inelasticity in decision-making. According to Luostarinen (1979: 44), the inclusion of lateral rigidity "adds to the understanding of why all the decisions leading to implementation do not necessarily go neatly through the whole process and why to become exposed to an impulse is a necessary but not sufficient condition for the company to become engaged in reaction, search and choice."

Lateral rigidity could occur as a result of decision-makers' limited perceptions of stimuli due to the firm's unfavorable geographic position, restricted reaction to stimuli due to the firm's lack of appropriate resources, or due to the firm being confined by preferred or familiar choices and alternatives. It can represent psychological barriers to managers taking the decision to internationalize their firm, such as internationalization representing an unacceptably high level of risk to the firm or an attitude of complacency in the sense that the firm is returning profit sufficient for the satisfaction of owners. Lateral rigidity incorporates those factors that constrain the firm in its decision making from moving from one state to another through a change aspect (Johanson & Vahlne, 1977; 2009) when other factors imply that change would be advantageous. This occurs as lateral rigidity and "leads to a high preference for keeping the existing pattern of activities unchanged" in a firm (Luostarinen, 1979: 48).

Firm Resources

The Wiedersheim-Paul et al. (1978) pre-export framework suggests that a fundamental link between a firm's experiential learning process and its export commencement is established by a decision-maker's perception regarding the firm's resources. The importance of a firm's tangible and intangible resources for its long-term sustainable competitive advantage is well established, particularly within the resource-based perspective (Andersen & Kheam, 1998; Wernerfelt, 1984). This is consistent with the Uppsala approach which links a firm's resource capability with its increasing international commitment and aligns with internationalization as a strategic, on-going process of continuing development and allocation of resources (Melin, 1992).

Resources have been defined as both tangible and intangible inputs into a firm's operational process and include a firm's financial and human-related attributes (Hitt, Ireland & Hoskisson, 1999), product attributes such as features and quality (Khalili, 1991; Louter, Ouwerkerk & Bakker, 1991), investment in research and development (Reid, 1981), technological attributes (Aaby & Slater, 1989), distribution channel and control systems (Louter et al., 1991), and management attributes such as skills and knowledge (Axinn, 1988; Bilkey, 1978). According to the pre-export literature, a decision-maker's perception regarding a firm's relative resource strength and attributes is central to the firm's stimuli response and foreign market commitment decision (Wiedersheim-Paul et al., 1975; 1978). The internationalization commitment constructs are represented in Figure 1.

PLACE FIGURE 1 ABOUT HERE

THE EXPORT COMMITMENT INDEX

Methodology

To develop the concept of export commitment as proposed in this study, we investigate relevant commitment behavior at the individual (rather than firm) level. We focus our research on decision-makers of small-medium sized firms and study the key factors that influence their initial export commencement decision. Following development of the four constructs from the literature, as discussed above, their relevance was explored through a focus group session with seven SME firms, three exporters and four non-exporters, drawn from the ICT sector. Each firm was also separately interviewed after the group session. In these discussions themes relating to the above constructs emerged consistently and a list of items was developed reflecting the firms' views on these issues. No other generalizable construct was identified as important to the proposed model and the commitment model proposed in Figure 1 was confirmed.

The pre-internationalization experiences of a sample of Australian SMEs was assessed and analyzed through distribution of a self-administered mailed questionnaire. The questionnaire contained 142 items spread across the four major constructs discussed above: exposure to stimuli, attitudinal/psychological engagement, firm resources and lateral rigidity. The items were derived from the literature and the exploratory firm interviews and reflect our attempts to cover all relevant issues. Consequently, significantly more items were included for constructs with extensive associated literature, such as resources, than those relatively unexplored, such as lateral rigidity. The questionnaire was then pre-tested with academics involved in international business research and with one of the focus group firms to ensure no ambiguity or bias. After a few amendments, (for example in clarification of wording with some items), the questionnaire was finalized and mailed with a covering letter to a list of the CEOs of 4000 Australian SMEs, representing a wide range of industries. The sample consisted of both exporters and non-exporters in approximately equal numbers so as to incorporate experiences and views of both categories.

Survey respondents were asked to respond to the items using a 5-point Likert scale; from 1 = strongly disagree to 5 = strongly agree. Following a previous study on the impact of stimuli factors for exporting (Leonidou, 1998), participants were asked under the 'Exposure to Stimuli' category, how strongly they agreed that they would be stimulated by a range of stimuli factors (example item: "An unsolicited enquiry is received from abroad."). Under the 'Attitudinal/Psychological Engagement' category, questions were framed around issues highlighted in previous work by Miesenbock (1988) and Allen and Meyer (1990). Participants were asked how strongly they would respond to favorable export stimuli (example item: "After we've been exposed to a favorable export stimulus, we would try to seek more information from a local government agency."). Under the 'Firm Resources' category, participants were asked about the importance to a firm’s export commencement of various resource attributes highlighted in the literature by Wernerfelt (1984) and Teece, Pisano and Shuen (1997) (example item: “Firm has patents or trademarks for its technology.”). Finally, ‘Lateral Rigidity’ items asked participants to consider the extent to which an initial decision to commence exporting could be prevented in the presence of a range of rigidity issues (example item: “We do not wish to expose ourselves to any form of uncertainties about things that may not work out right.”).

The returned surveys were inspected for completeness and consistency and a total of 290 were useable, of which 189 (65%) were from exporting firms and 101 (35%) were from non-exporting firms. This represents a response rate of usable questionnaires of about seven percent. The relatively low response rate is in line with expectations for large scale surveys (Harzing,1997; Alreck & Settle, 1995). The sample size is well above the minimum recommended sample size of 100 for factor analysis (Hair, Anderson, Tatham & Black, 1998) and well above the “rule of 200” (Gorsuch, 1983). It is also consistent with the “significance rule” (Lawley & Maxwell, 1971).

Our sample includes firms from a wide range of industry categories that include agriculture, building/construction, manufacturing, mining, retail, innovation/science/technology, services, tourism and transportation. The percentages of sampled firms that export range from highs of 92% in mining and 87% in innovation/science/technology to lows of 34% in retail and 41% in building/construction. Seventy-five percent of sampled firms employed fifty or fewer employees and two percent employed more than 500 employees. Of those firms exporting, 18% earned more than 30% of their revenue from export and 40% of firms that export had been doing so for at least 10 years. Five percent of currently non-exporting firms had previously exported. Table I reports the number of export years and the percentage of revenue earned through export for exporting firms in our sample.

PLACE TABLE 1 ABOUT HERE

Constructing the ECI The ECI was constructed through a two-stage procedure utilizing both exploratory and confirmatory factor analyses. First, the original 142 items in the dataset were analyzed through exploratory factor analysis using SPSS. The procedure extracted a total of 12 factors with 58 items. Next, a confirmatory factor analysis was conducted using AMOS to test the model fit of the 12 extracted factors and their corresponding items. An evaluation of the fit indices shows a mixed result in terms of model fit. The Normed Chi-Square (χ^2/df) is 2.289 which is close to 2.0 and within the recommended guideline (Hair et al., 1998). Fit measures that reported inadequate fit include the Goodness of Fit Index (GFI) and the Normed Fit Index (NFI), with values being close to 0.7, and the Comparative Fit Index (CFI) at around 0.8. The Root Mean Square Error of Approximation (RMSEA), shows a value of near 0.06, an indication of good fit (Hu & Bentler, 1999). To improve model fit, items with low standardized regression weights and high cross-loadings were deleted. The procedure retained a total of 8 factors. This new set of factors explains 63.37% of the total variance and retains 30 of the original items. AMOS fit measures shows fit indices to be within good to acceptable threshold. The Normed Chi-Square is 1.83, CFI is 0.93, IFI is 0.93, TLI is 0.931, RMR is 0.056 and RMSEA is 0.054. Figure 2 is the measurement model that details the 8 factors and their corresponding items.

PLACE FIGURE 2 ABOUT HERE

This 8-factor model was then tested for discriminant validity to assess whether there was a definitional overlap. A Pearson correlation test showed an average level of correlation ranging between 0.20 to 0.40, which is well below the general guideline of 0.85 (Hair et al., 1998). As shown in Figure 2, the 8 factors do not exhibit high correlation with each other. This is validation that the 8 factors measure dissimilar concepts, are individually unique and do not converge. The 8 factors of the ECI are listed and described below:

1. Inertia (α = 0.902): Decision-maker’s unwillingness to respond to export stimuli due to satisfaction with the firm’s current state of operations.
2. Information search (α= 0.756): Decision-maker’s response to export stimuli through research activities to gather relevant information through both internal and external sources.
3. Ease of export market (α = 0.852): Perception by the decision-maker that a potential export market shares similarities with the domestic market and has a stable currency exchange rate.
4. Internal evaluation (α = 0.851): Decision-maker’s response to export stimuli through an assessment of the firm's export suitability and feasibility.
5. Innovation (α = 0.887): Perception by the decision-maker that the firm has unique products, advanced production techniques and/or innovative technology.
6. Managerial competence (α = 0.783): Decision-maker’s perception that the firm has resource strength in the form of competent managers who are driven by the benefits of exporting.
7. Network ties (α = 0.868): Decision-maker’s perception that the firm has resource strength in the form of network membership and business ties with other firms.
8. Sales and growth opportunities (α = 0.875): Perception by the decision-maker that there are additional profits and growth prospects for the firm through engaging in export operations.

Analyzing Export Commitment Using the ECI

It would be of both theoretical and practical interest to understand why exporters and non-exporters behave differently in relation to their initial export commencement decision. It is likely that certain factors within the ECI could be more significant than others in accounting for this difference in behavior, and to analyze this, we conducted a logistic regression analysis. This method allows an outcome to be categorized as a binary (two-group) dependent variable (Hilbe, 2009) to determine whether any significant differences exist between exporters and non-exporters in the sample. In terms of sample size, the suggested minimum requirement is at least 5 observations per independent variable, with a recommended requirement of at least 20 observations per independent variable (Hair et al. 1998). With a sample size of 290 and a total of 8 observable factors, this study more than meets the recommended sample requirements for this method. Using the survey question "Is your firm currently engaged in any export activity?" as the binary dependent variable and the 8 factors of the ECI as independent variables, a logistic regression analysis was run using the SPSS program.

The classification tables of the SPSS result were reviewed to assess how well the ECI predicts the dependent variable, that is, the accuracy in predicting that a firm is an exporter. Comparing the 8 factors ECI model ('Block 1' table) with the null model ('Block 0' table), there is noticeable improvement in prediction accuracy by 8.9% (from 65.2% to 74.1%, see Table 2 for the relevant SPSS output). This improvement in prediction validates the ECI as a suitable measurement tool for our analysis.

PLACE TABLE 2 ABOUT HERE

The logistic regression output in SPSS provides insights into the nature of export commitment as conceptualized in this study by identifying the factors that are significant in differentiating exporters and non-exporters in the sample. As shown in the 'Variables in the Equation' table from the SPSS output (refer to Table 3), four factors are identified as significant at the $p < 0.01$ level: “inertia”, "information search", "sales and growth opportunities" and "innovation". For these significant factors, the beta coefficient shows that “sales and growth opportunities” (which retains items originally categorized as ‘stimuli’) and "innovation" (which retains items originally categorized as ‘firm resources’) are positively correlated to export commencement. On the other hand, “inertia” (which retains items originally categorized as ‘lateral rigidity’) and “information search” (which retains items originally categorized as ‘attitudinal/psychological engagement’) are negatively correlated to export commencement. The remaining four factors "ease of export market", "internal evaluation", "managerial competence" and "network ties" are not significant according to the logistic regression analysis, reflecting indifferent perception of these factors by both exporters and non-exporters in our sample.

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DISCUSSION AND IMPLICATIONS

Our study has implications for firm internationalization research and practitioner understanding. To date, there has been much debate concerning the limitations of theories such as the internationalization process models (e.g., Melin, 1992; Blomstermo & Sharma, 2003; Steen & Liesch, 2007; Petersen & Pedersen, 1997). Our study, which analyzes the pre-internationalization state that precedes international involvement, offers an extended understanding of firm internationalization through an additional phase in the process. The results of our empirical analyses suggest that there are eight factors (which collectively form the ECI) that account for decision-makers' motivation to commit to export commencement. Four out of the eight factors are identified as significant in the logistic regression analysis and these may provide an insight into why decision-makers in exporting and non-exporting firms differ in relation to export commitment and the factors responsible for driving or inhibiting firms' initial export commencement decisions.

Inertia

The items in this factor highlight decision-makers' perceptions of adequacy of the firm’s sales, profits and current operations. The concept of inertia was originally raised in management studies to reflect a tendency among organizations to resist change and restrict responses to their external environment (March & Simon, 1958; Hannan & Freeman, 1977; 1984). In the field of firm internationalization research, the concept of inertia has also been raised in various studies. In

Luostarinen (1979), for example, this relates to a decision-maker's limited reaction to stimuli as well as their biased search for potential international opportunities. In Fillis' (2002) study, the author concludes that if a decision-maker is satisfied with their firm's current operational status, they are less likely to act on positive impulses that have arisen from international markets. This concept also relates to studies that explore decision-makers with an ethnocentric mindset, which have proposed that such decision-makers tend to be focused more on resolving domestic market issues rather than in investigating potential international opportunities (Perlmutter, 1969; Murtha, Lenwas & Baggozi, 1998).

According to our logistic regression analysis, this factor has a negative impact on export commencement among the firms in our sample. This result is consistent with what has been proposed in the literature. In this case, the decision-makers in non-exporting firms may not see the need for any changes to be made in relation to their firms' current status (that is, export commencement is unnecessary). They may either be content with carrying on their firms' current state of operations or may not see the need to shift attention away from their already familiar and profitable domestic market. On the other hand, decision-makers who are less resistant to change are more likely to commit themselves to international sales opportunities.

Information search

The items in this factor reflect a decision-maker's evaluation of potential export markets by obtaining more information and by conducting market research as a response to favorable stimuli. According to organization behavior studies, the commitment of a decision-maker through an attitudinal investment and involvement in this manner is a notable part of the decision-making process (Mowday, Steers & Porter 1979; Allen & Meyer, 1990). In Aharoni (1966: 11), this is highlighted as a form of "social investment", one that shifts a decision-maker's attention to foreign market opportunities. In studies that explore firm's pre-export behavior, this is considered as an antecedent to export commencement as it explains how export stimuli may be perceived and acted upon by decision-makers (Wiedersheim-Paul, 1975; 1978). Even though information search is often viewed as part of the decision-making process, it is interesting to note from our logistic regression analysis that this factor has a negative rather than positive impact on export commencement among the firms in our sample.

This result is consistent with some studies previously reported that raise the potential problem of ‘information overload’ on organizational effectiveness (Butcher, 1995; Oppenheim, 1997; Edmunds & Morris, 2000). From this perspective, it may be inferred that although information on foreign markets is useful to a point, the research procedure should be one that is both cautious and selective to avoid collecting more information than can be properly assimilated or efficiently processed by the firm. Another possible explanation as to why this factor has a negative impact may be that many non-exporters in our sample are still in their research and information-seeking phase, and they have yet to advance beyond information search to commit to an export commencement decision.

Sales and growth opportunities

The items in this factor highlight the potential for extra sales and profits from internationalization, achieving corporate growth. For many years, pursuing profits has been highlighted as an important motivation in firm strategy decision-making (Penrose, 1959). In relation to firm internationalization, the importance of encouraging export operations for firm growth has been raised in the early literature (Bilkey, 1978; Cavusgil, 1980). In more recent years, the potential of growth and profits as key drivers of firm internationalization has continued to be supported through a range of international studies on SMEs (Barnes, Chakrabarti & Palihawadana, 2006; EFIC, 2008; OECD, 2009).

More specific to our study, the motives of sales and profits are classified as stimuli that evoke a decision-maker within a firm to adopt a proactive approach to internationalization (Leonidou, 1998). As a stimulus factor, its positive impact on exporting (as seen in the logistic regression analysis) can be interpreted as showing that growth and profit-related motives are important drivers of willingness to commit to export operations. The significance of this factor among exporting firms in our sample provides empirical validation that supports the theoretical underpinnings of the internationalization process models (Penrose, 1959; Cyert & March, 1963; Johanson & Vahlne, 1977, 2009). In this case, the exporters differ from the non-exporters in that they view growth and profit motives as being essential to their commitment to export commencement.

Innovation

The items in this factor highlight the importance of a firm's product uniqueness and technological innovation in relation to export commencement. As discussed in resource-based studies, a firm's unique resources provide it with an advantage over its rival competitors (Amit & Schoemaker, 1993; Peteraf, 1993). In particular, successful and competitive firms tend to have firm-specific resources that are rare, valuable, and both difficult to substitute and imitate (Barney, 1991). Within technology-oriented industries, the advantages associated with uniqueness, innovation and technological competence have been especially important in generating greater awareness of smaller tech-based firms across international markets (Li, Qian & Qian, 2012). Studies have also shown innovative firms to be more likely to internationalize early, and some may even enter multiple markets simultaneously both to reap first-mover advantage as well as to deter potential imitators (Mathews & Zander, 2007).

According to our logistic regression analysis, this factor has a positive impact on export commencement among the firms in our sample, and this result is consistent with the general proposals in the literature. It indicates decision-makers in exporting firms tend to view the presence of unique and innovative resources as being important to their firms' export commencement. Conversely, decision-makers from non-exporting firms may have perceived their firms to be lacking in these characteristics, and as a result, these firms have not yet committed to export commencement.

Non-Significant Factors

The remaining four factors ("ease of export market", "internal evaluation", "managerial competence" and "network ties") are not significant according to our logistic regression analysis. This means that although the factors may each reflect an aspect of export commitment behavior, their perceived relative importance in influencing an initial export commencement decision is not different between the two dependent groups (exporters and non-exporters) in the sample.

The factor "ease of export market" reflects similarities between a firm's domestic market and potential international markets. It is linked to the concept of ‘close psychic distance’, which numerous studies have proposed to be influential in driving a firm's internationalization choices (Johanson & Vahlne, 1977; 1990; Dichtl, Leibold, Koglmayr & Muller, 1990; Dow, 2000; Brewer, 2007). The factor "internal evaluation" highlights decision-makers' assessment and evaluation of their firms’ suitability and capability to export as a response to export stimuli. An export commencement decision is made only after the decision-maker feels confident that the firm has the ability to overcome the risk of venturing into a foreign market (Knight & Liesch, 2002). As noted by Onkelinx and Sleuwaegen (2008), internal evaluation is an essential step for SMEs in determining their ability to develop and successfully pursue an international strategy.

The factor "managerial competence" captures competency and pro-activeness among decision-makers in a firm's pursuit of international opportunities. Studies have shown the importance of such managerial characteristics in supporting a firm’s interest in, as well as commitment to, internationalization (Cavusgil, 1984; Axinn, 1988; Louter et al., 1991; Chetty & Hamilton, 1993). The factor "network ties" measures a decision-maker’s perception regarding the firm’s relationship-based attributes such as its ties with other firms through formal/informal relationships and affiliations. The role of relationship and ties between firms has received much attention in the literature as part of the network perspective of internationalization (Hakkanson, 1982; Johanson & Mattsson, 1988; Coviello & Munro, 1997; Johanson & Vahlne, 2009). In more recent studies, the importance of relationship-based attributes in influencing the internationalization of firms has continued to receive support (OECD, 2009; Chetty & Stangl, 2010; Tang, 2011).

The fact that these factors are retained in the factor analysis procedures accentuates their underlying influence and importance to the overall concept of export commitment. The lack of significance of the factors in the logistic regression analysis does not detract from their importance. However, it does reflect a common view among the sample firms - the importance of these factors is not restricted to the one type of firm, but is equally relevant to both exporters and non-exporters.

Contributions and future research

This study provides several contributions to the existing internationalization literature. First, the firm pre-internationalization state, which was previously discussed only in conceptual studies, is operationalized here through empirical analysis. This provides, for the first time, evidence of the pre-internationalization process as it occurs in firms. The factors that are important elements of firm managers' commitment towards internationalization are identified and their relationship within an overall commitment measure is established. Of the ECI factors, the four that identify exporters from non-exporters reinforce the importance of perceptions of sales and growth opportunities and innovation to internationalization outcomes, and the potential negative effects of inertia and information overload.

Whilst the study is not intended specifically as an evaluation or expansion of the Uppsala internationalization process models (Johanson & Vahlne, 1977; 2009), there are clear Uppsala implications in our findings. From a theoretical perspective, it is postulated that the export commitment decision we observe in the pre-internationalization state parallels the commitment decision process in the internationalization process models, and that the changes in state in the model that induce foreign market commitment (Johanson & Vahlne, 1977), and network positioning (Johanson & Vahlne, 2009) based on market learning and knowledge accumulation in the former, and knowledge of opportunities in the latter, are first experienced in the firm's pre-internationalization (domestic) state.

Next, our proposed ECI presents a new measurement tool that scales the key influences relevant to export commitment behavior. Through the ECI it is possible to assess a firm's level of commitment to export and to determine the elements that are driving and inhibiting that commitment. From a practitioner point of view, the ECI can provide an analysis of the firm's position in this respect. Managers can better understand the elements of their firm's internationalization status and, if desired, take action accordingly. Similarly, for public policy makers who are interested in improving a nation's exporter numbers, the ECI can be used to assess potential exporter firms and to determine the likelihood of internationalization. Action may be taken in respect of those ECI factors unfavourable to firm internationalization based on the specifics of the firm itself. For firms well positioned for export but inhibited by lateral rigidity, action could be taken to change the mindset of managers.

As for future research, only Australian firms were included in our sample which raises the issue of generalizability of the ECI and its component factors to other national contexts. Future research should consider a larger sample and also a cross-national replication of the study. In addition, a longitudinal study which tracks the change of state of firms against the ECI prediction would be informative. Such a study could be conducted on a sample of non-exporting firms to determine their status under the ECI at a point in time and then to retest them later to determine whether the ECI has predicted a state change from domestic activity to export activity. Further, and importantly, to date, lateral rigidity remains a concept that has received scant attention in the firm internationalization literature, and we assert its application in internationalization studies to be understated. While we note its significance in this study, we call for a more detailed exploration in future research of this phenomenon as it appears to be an important factor that influences decision-making in international firms.

CONCLUSION

This study extends our understanding of the internationalization process by identifying export commitment as the transition point between a firm's state of pre-internationalization and its first international commitment through an export venture. We have identified and measured the commitment factors that are important at the pre-internationalization state and shown how these interrelate in the decision to commit to internationalization via exporting. The transition from pre-internationalization to internationalization through an export commitment decision has been captured in an Export Commitment Index which can be applied to assess a firm's likelihood to commit to an export commencement activity. The conjectured pre-internationalization state might also be viewed as a process of learning and knowledge accumulation, similar to the classic internationalization process (Johanson & Vahlne, 1977; 2009), where a firm is willing to take a commitment decision only after its tolerable risk frontier is broached. The form of this learning and knowledge accumulation has yet to be fully determined.

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Figure 1: The Pre-Internationalization State - Conceptual Model

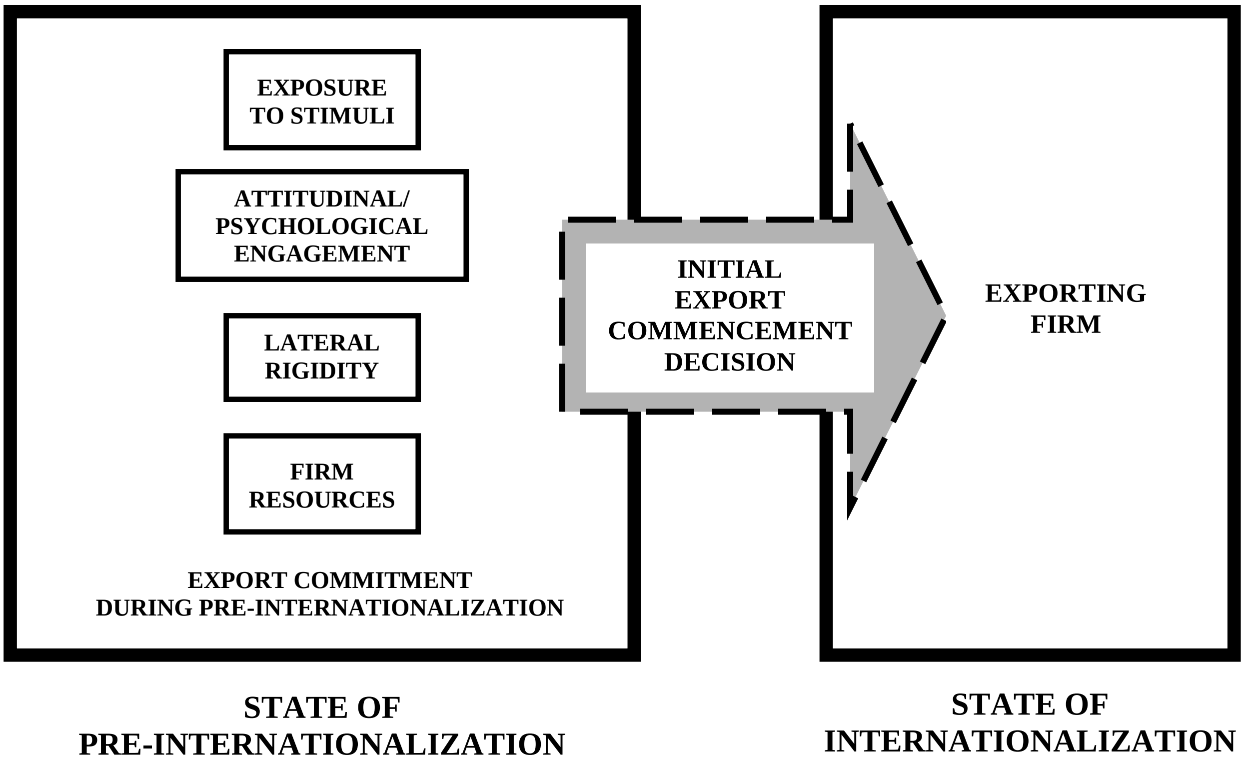
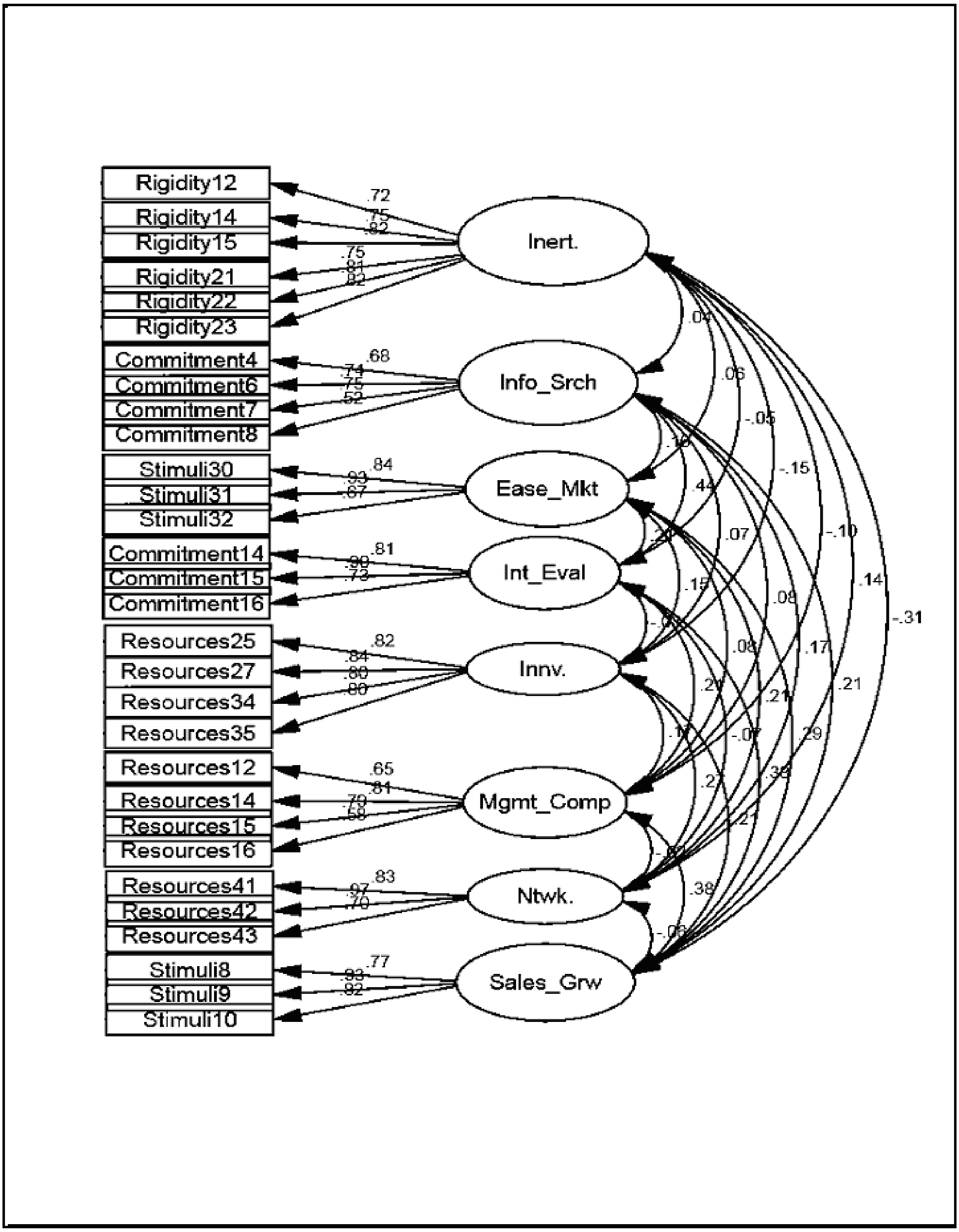


Figure 2: Export Commitment Index (ECI)

Confirmatory Factor Analysis (Amos Output: Measurement Model)



Factor Correlation Matrix

FACTORS	Inert.	Info_ Srch	Ease_ Mkt	Int_Eval	Innv.	Mgmt_ Comp	Ntwk.	Sales_ Grw
Inert.	-	0.041	0.061	-0.046	-0.153	-0.099	0.139	-0.308
Info_Srch	0.041	-	0.158	0.436	0.074	0.076	0.166	0.210
Ease_Mkt	0.061	0.158	-	0.211	0.152	0.076	0.214	0.292
Int_Eval	-0.046	0.436	0.211	-	-0.031	0.212	-0.074	0.381
Innv.	-0.153	0.074	0.152	-0.031	-	0.167	0.267	0.215
Mgmt_Comp	-0.099	0.076	0.076	0.212	0.167	-	-0.021	0.385
Ntwk.	0.139	0.166	0.214	-0.074	0.267	-0.021	-	-0.056
Sales_Grw	-0.308	0.210	0.292	0.381	0.215	0.385	-0.056	-

Factor Loadings

Factors / Items	Inertia	Information Search	Ease of Export Market	Internal Evaluation	Innovation	Managerial Competence	Network	Sales & Growth Opportunities
Stimuli8	-	-	-	-	-	-	-	0.774
Stimuli9	-	-	-	-	-	-	-	0.926
Stimuli10	-	-	-	-	-	-	-	0.819
Stimuli30	-	-	0.844	-	-	-	-	-
Stimuli31	-	-	0.928	-	-	-	-	-
Stimuli32	-	-	0.668	-	-	-	-	-
Commitment4	-	0.677	-	-	-	-	-	-
Commitment6	-	0.745	-	-	-	-	-	-
Commitment7	-	0.749	-	-	-	-	-	-
Commitment8	-	0.520	-	-	-	-	-	-
Commitment14	-	-	-	0.807	-	-	-	-
Commitment15	-	-	-	0.905	-	-	-	-
Commitment16	-	-	-	0.734	-	-	-	-
Rigidity12	0.715	-	-	-	-	-	-	-
Rigidity14	0.754	-	-	-	-	-	-	-
Rigidity15	0.816	-	-	-	-	-	-	-
Rigidity21	0.753	-	-	-	-	-	-	-
Rigidity22	0.808	-	-	-	-	-	-	-
Rigidity23	0.825	-	-	-	-	-	-	-
Resources12	-	-	-	-	-	0.654	-	-
Resources14	-	-	-	-	-	0.806	-	-
Resources15	-	-	-	-	-	0.786	-	-
Resources16	-	-	-	-	-	0.581	-	-
Resources25	-	-	-	-	0.818	-	-	-
Resources27	-	-	-	-	0.836	-	-	-
Resources34	-	-	-	-	0.797	-	-	-
Resources35	-	-	-	-	0.804	-	-	-
Resources41	-	-	-	-	-	-	0.826	-
Resources42	-	-	-	-	-	-	0.966	-
Resources43	-	-	-	-	-	-	0.703	-
Cronbach's Alpha	0.902	0.756	0.852	0.851	0.887	0.783	0.868	0.875

ECI (Factors and Items)

1) Inertia (alpha = 0.902)
- All our resources are already committed to domestic use, so we can't react to any favorable stimuli factors. (Rigidity12)
- We do not see any foreseeable threats in our domestic operations, so we do not see the need to commence export operations. (Rigidity14)
- Our organizational goals at this stage are domestic-oriented, so we have no plans for international expansion. (Rigidity15)
- We do not see the need to do more than what has already been done. (Rigidity21)
- We might be interested to export in the future, but not at this stage. (Rigidity22)
- We are busy now and we will think about it later. (Rigidity23)

2) Information Search (alpha = 0.756)
- After we've been exposed to a favorable export stimulus, we would communicate interest in exporting throughout the organization to seek opinion. (Commitment4)
- After we've been exposed to a favorable export stimulus, we would try to seek more relevant information from internal firm sources. (Commitment6)
- After we've been exposed to a favorable export stimulus, we would try to seek more information from a network firm. (Commitment7)
- After we've been exposed to a favorable export stimulus, we would try to seek more information from a local government agency. (Commitment8)

3) Ease of Export Market (alpha = 0.852)
- Similar culture with a potential export market. (Stimuli30)
- Similar language with a potential export market. (Stimuli31)
- Stable currency exchange rate with a potential export market. (Stimuli32)

4) Internal Evaluation (alpha = 0.851)
- After we've been exposed to a favorable export stimulus, we would evaluate the benefits and risks relating to potential export market(s). (Commitment14)
- After we've been exposed to a favorable export stimulus, we would make an assessment of our own resource capabilities. (Commitment15)
- After we've been exposed to a favorable export stimulus, we would evaluate the advantages and disadvantages of exporting against our organizational goals. (Commitment16)

5) Innovation (alpha = 0.887)
- Firm's product is unique. (Resources 25)
- Firm uses innovative technology in manufacturing. (Resources27)
- Firm has advance engineering and technical systems. (Resources34)
- Firm uses high-tech production techniques. (Resources35)

6) Managerial Competence (alpha = 0.783)
- Firm has key decision-makers who are competent and proactive. (Resources12)
- Firm has key decision-makers who are profit-oriented. (Resources14)
- Firm has key decision-makers who are growth-oriented. (Resources15)
- Firm has key decision-makers who have high level of risk tolerance. (Resources16)

7) Network (alpha = 0.868)
- Firm is a member of a network with exporting firms. ((Resources41)
- Firm has access to a network with exporting firms. (Resources42)
- Firm has business ties with other firms that are exporting. (Resources43)

8) Sales & Growth Opportunities (alpha = 0.875)
- Extra sales and profits can be gained. (Stimuli8)
- Corporate growth can be achieved. (Stimuli9)
- Our business can be expanded. (Stimuli 10)

Table 1: Exporters: Number of export years and percentage of revenue earned through exporting

		PERCENTAGE OF REVENUE EARNED THROUGH EXPORTING							Total
		5% & LESS	6% TO 10%	11% TO 20%	21%TO 30%	31% TO 50%	MORE THAN 50%	UNCERTAIN	
EXPORT YEARS	5 & LESS	16	8	2	0	3	6	16	**51**
	6 TO 10	10	11	11	5	4	5	17	**63**
	11 TO 20	9	5	7	4	4	10	6	**45**
	MORE THAN 20	3	4	5	1	0	2	4	**19**
	UNCERTAIN	2	3	1	0	0	0	5	**11**
Total		**40**	**31**	**26**	**10**	**11**	**23**	**48**	**189**

Table 2: Logistic Regression Analysis (SPSS Output: Classification Table)

Classification Table					
Observed			**Predicted**		
			EXPORT		**Percentage Correct**
			Yes	No	
Step 0	**EXPORT**	Yes	189	0	100.0
		No	101	0	.0
	Overall Percentage				**65.2**
Step 1	**EXPORT**	Yes	160	29	84.7
		No	46	55	54.5
	Overall Percentage				**74.1**

Table 3: Logistic Regression Analysis (SPSS Output: Variables in the Equation)

Independent Variables	B	S.E.	Wald	Sig.	Exp(B)
Inertia	- .688	.165	17.315	.000	.503
Information Search	- .736	.219	11.351	.001	.479
Ease of Export Market	- .047	.187	.064	.800	.954
Internal Evaluation	.461	.161	8.211	.004	1.585
Innovation	- .067	.253	.070	.791	.935
Managerial Competence	- .035	.169	.044	.835	.965
Network Ties	.915	.212	18.641	.000	2.497
Sales and Growth Opportunities	.088	.242	.131	.718	1.092
Constant	- .087	1.377	.004	.949	.916